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SPECIFICATION FOR CLAY PIPE TRIANGLES

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BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

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June 1966

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SPECIFICATION FOR CLAY PIPE TRIANGLES

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SPECIFICATION FOR CLAY PIPE TRIANGLES

0. FOREWORD

0.1 This Indian Standard was adopted by the Indian Standards Institution on 14 September 1965, after the draft finalized by the Ceramicware Sectional Committee had been approved by the Chemical Division Council.

0.2 In the formulation of this standard care has been taken to relate it to the views of the manufacturers, consumers and technologists in the field. This has been ensured by basing the standard on the Ministry of Defence Specification No. MED/TDES/146 ' Triangle, clay pipe '

0.3 This standard is one of a series of Indian Standards on laboratory porcelain. Other standards published so far in the series are:

IS : 2836-1964 Methods of test for laboratory porcelain
IS : 2837-1964 Specification for porcelain crucibles and basins

0.4 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS : 2-1960*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

1. SCOPE

1.1 This standard covers the requirements and the methods of sampling and test for clay pipe triangles used in analytical laboratories.

2. REQUIREMENTS

2.1 Raw Materials

2.1.1 *Steel Wire* — Heat and rust resistant, malleable, round steel wire having a nominal diameter of 1·40 mm (or 17 SWG) and conforming to IS : 280-1962† shall be used.

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*Rules for rounding off numerical values (*revised*).

†Specification for mild steel wire (*revised*).

2.1.2 *Clay Pipe* — The clay pipe shall be without any glaze and made of suitable material capable of withstanding a temperature of 1 200°C without fusing or crumbling.

2.1.2.1 The diameter of the clay pipe shall be 7·0 ± 0·5 mm and the bore shall be not more than 3 mm.

2.2 Designation and Sizes

2.2.1 The clay pipe triangle shall be designated by the length of the side.

2.2.2 The clay pipe triangle shall be of four sizes. The nominal length of each side of the triangle shall be (a) 50 mm, (b) 62 mm, (c) 75 mm, and (d) 100 mm.

2.3 Shape and Dimensions

2.3.1 The clay pipe triangles shall be equilateral and generally conform to the shape shown in Fig. 1.

2.3.1.1 The adjacent steel wires that form each angle of triangle shall extend beyond the angle formed, and be tightly twisted. The length of the projection shall be such as to facilitate its placing on the tripod stand.

2.3.1.2 The clay pipe shall freely turn on the wire.

2.3.2 The dimensions of the clay pipe triangle shall conform to those given in Fig. 1.

2.4 Manufacture and Workmanship

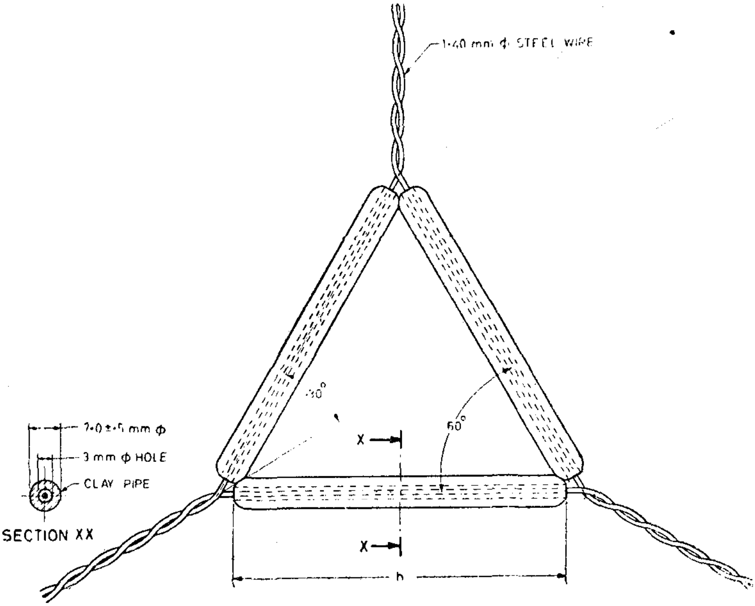
2.4.1 The clay pipe shall be of uniform thickness, circular in cross section and have a clean finish.

3. PACKING AND MARKING

3.1 The triangles shall be tied in suitable bundles and each bundle shall have securely fastened to it a label legibly and indelibly marked with the manufacturer's name, his trade-mark; if any, and the size of the triangles. Triangles of same size shall be bundled together.

3.2 The label may also be marked with the ISI Certification Mark.

NOTE — The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution (Certification Marks) Act and the Rules and Regulations made thereunder. The ISI Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well-defined system of inspection, testing and quality control which is devised and supervised by ISI and operated by the producer. ISI marked products are also continuously checked by ISI for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the ISI Certification Mark may be granted to manufacturers or processors, may be obtained from the Indian Standards Institution.



h = 50, 62, 75 or 100 mm

FIG. 1 CLAY PIPE TRIANGLE

4. SAMPLING

4.1 The method of drawing representative samples of the material and the criteria for conformity shall be as given in Appendix A.

5. TEST METHODS

5.1 Place a clay pipe triangle horizontally in a muffle furnace with an empty crucible with lid supported on it. When heated for 2 hours at 1 200°C in that furnace, the clay pipe triangle shall not sag under the combined weight.

5.2 Heat the clay pipe triangle in a muffle furnace at about 1 200°C for 15 minutes and subsequently cool at room temperature for 30 minutes. After undergoing five such cycles it shall not show any sign of cracking.

APPENDIX A

(*Clause* 4.1)

METHODS OF SAMPLING OF CLAY PIPE TRIANGLES

A-1. SCALE OF SAMPLING

A-1.1 Lot — All the clay pipe triangles of the same size in a consignment shall be grouped together to constitute a lot.

A-1.2 The conformity of the lot to the requirements of this specification shall be ascertained separately for individual lot.

A-1.3 The samples for this purpose shall be taken in accordance with those given in col 1 and 2 of Table 1.

TABLE 1 NUMBER OF SAMPLES

No. of Triangles in the Lot (1)	Number of Triangles in the Sample (2)	Permissible number of defective Triangles (3)
Up to 150	8	0
151 ,, 300	13	1
301 ,, 500	20	2
501 ,, 1 000	32	3
1 001 ,, 3 000	50	5
3 001 and above	80	7

A-1.4 The samples shall be selected at random from the lot. To ensure the randomness of selection, use shall be made of random number tables. In case such a table is not available, the following procedure shall be used:

> Starting from any triangle in the lot, count them as 1, 2, etc, up to *r* and so on where *r* is the integral part of N/n, N being the number of triangles in the lot and n the number of triangles to be selected in the sample. Every *r*th triangle thus counted shall be withdrawn to constitute the sample.

A-1.5 If the triangles in a lot are packed in packages, then a suitable number of packages subject to a minimum of 50 percent shall be selected at random and then an approximately equal number of triangles shall be taken from them at random according to the procedure described in **A-1.4** so as to obtain the requisite number of triangles.

A-2. NUMBER OF TESTS AND CRITERIA FOR CONFORMITY

A-2.1 Each of the triangles in the samples selected in accordance with **A-1.4** and **A-1.5** shall be tested for all the requirements of this specification.

A-2.2 Any triangle failing in any one of the requirements of this specification shall be called a defective.

A-2.3 The lot shall be considered as conforming to the requirements of this specification if the number of defective triangles in the sample does not exceed the permissible number of defective triangles given in col 3 of Table 1.

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